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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,939	04/05/2004	Fred Buchali	Q80563	3035

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SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

AZEMAR, GUERSSY

ART UNIT	PAPER NUMBER
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2613

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/816,939	BUCHALI, FRED	
	Examiner	Art Unit	
	Guerssy Azemar	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 April 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04/05/2004</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 4 recites the broad recitation "the optical data signals are Gb/s signals" and the claim also recites "10 Gbs/s or 40 Gbs/s signals" which is the narrower statement of the range/limitation.
3. Regarding claim 4, the phrase "in particular" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 8 is rejected under 35 U.S.C. 101 because the claim is directed toward non-statutory subject matter.

(1) Applicant cannot claim computer software. The examiner suggests applicant claims "a computer-readable medium encoded with computer program".

(2) A computer program is merely a set of instructions capable of being executed by a computer, which permits the computer program's functionality to be realized, therefore a computer program itself is not capable of generating a clock signal out of an electrical data signal.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 3, 4, 5, 7, 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Uchiyama et al. (20020027692).

(1) With respect to claims 1 and 8:

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Uchiyama et al. teach a receiver device for optical data signals (100 in figure 5), in particular optical data signals in the Gb/s range (page 4, paragraph 0056, 100Gb/s), comprising an opto-electrical conversion unit (31 in figure 5), a frequency multiplier unit for frequency-multiplying the converted electrical data signal (32 in figure 5), and a clock recovery unit (51, 52, and 12 in figure 5),

wherein the frequency multiplier unit performs a frequency multiplication by a factor of n , with n being a natural number larger than 2 (page 4, paragraph 0055, " $n>1$ ").

(2) with respect to claim 3:

Uchiyama et al. teach a receiver device wherein $n=4$ ($n>1$, page 4, paragraph 0055).

(3) With respect to claim 4:

Uchiyama et al. teach a receiver device, wherein the optical data signals are Gb/s signals, in particular 10 Gb/s signals or 40 Gb/s signals (page 3, paragraph 0056).

(4) With respect to claim 5:

Uchiyama et al. teach the receiver device, wherein the clock recovery unit comprises a phase locked loop circuit (page 4, paragraph 0053).

(5) With respect to claim 7:

Uchiyama et al. teach a data transmission system comprising an optical transmission link, in particular an optical fiber system (10 in figure 5), wherein the

optical transmission link has a significant dispersion (dispersion occurs inherently in optical fiber system), and a receiver device (100 in figure 5).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama et al. (20020027692) in view of Govind P. Agrawal, Fiber-Optic Communication Systems, second ed., Wiley, NY 1997, pp. 159-160. (Cited in the IDS, and Hereinafter referred to as "Agrawal")

(1) With respect to claim 2:

Uchiyama et al. teach all of the subject matter as described above except for the receiver device comprises a frequency filter for the spectral power of the electrical data signal, wherein the frequency filter transmits around B/n , wherein B is the bit rate of the electrical data signal.

However, Agrawal teaches a frequency filter for the spectral power of the electrical data signal, wherein the frequency filter transmits around $B/2$, wherein B is the bit rate of the electrical data signal (page 159, section 4.3.3).

It is well known in the art that after O/E conversion, the received signal includes some spectral components are sometimes degraded at around half the bit rate or higher. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the filter taught by Agrawal in the receiver taught by Uchiyama et al. in order to remove the lack of spectral components occurring at frequency higher than those around half the bit rate.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama et al. (20020027692) in view of Hendrickson (20020110215).

Uchiyama et al. teach all of the subject matter as described above except for the receiver wherein the clock recovery unit comprises a filter clock recovery circuit.

However, Hendrickson teaches the receiver wherein the clock recovery unit comprises a filter clock recovery circuit (see figure 4, page 3, paragraph 0040).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use a filter clock recovery unit taught by Hendrickson in the receiver taught by Uchiyama et al. because it allows for easier sampling of the data signal (page 3, paragraph 0040).

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guerssy Azemar whose telephone number is (571) 270-1076. The examiner can normally be reached on Mon-Fri (every other Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Guerssy Azemar

01/19/2007


KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER